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COMMENTARY

Many sexual and reproductive health studies rely on individual level measures, especially those concerned with behavioural outcomes. However, it has been demonstrated in other fields of health research that area level factors matter, above and beyond individual level measures (see for example studies 17–20 cited by Smith and Subramanian[1]). The need to simultaneously consider factors at individual and partnership levels, as well as sexual networks and variations across subpopulations to better understand STI/HIV epidemiology has recently been emphasised.[2] The study by Smith and Subramanian thus provides important evidence in this respect.[1] The authors focus on numbers of heterosexual partners in the past year as their outcome but, as has been shown, partner numbers are an important predictor of a number of adverse sexual and reproductive health outcomes.[3 4] Using data from the Australian Health and Relationship Study, a large national probability survey that achieved a high response rate and low item non-response, Smith and Subramanian report that area level factors, measured in terms of Australia's Statistical Sub Divisions, are significantly associated with partner numbers, even after taking account of individual level factors.

While the authors did not consider a particularly extensive range of area level factors, their data driven model may reflect difficulties in obtaining relevant aggregate level data consistent with the study's individual level measures and its spatial and temporal units of analysis. Of course, this assumes that concepts can be quantified and measured at the aggregate level, which is not always the case.[5 6] These issues are not unique to this study and may hamper researchers' attempts to adopt a multilevel perspective. Despite these data challenges, multilevel analyses enable us to consider how factors operating at different levels are associated with each other, and in some cases, interact across the different levels of analysis. Indeed, it has been argued that this approach is not only more informative, but that just considering individual level ''effects'' may be erroneous as they may vary according to area level factors. Similarly, looking just at the aggregate level prevents distinction between individual ''effects'' and area ''effects.''[5] (The use of quotation marks here is deliberate, reflecting how causality can not and should not be assumed from the analyses of cross sectional data, as Smith and Subramanian note.[1])

We should be encouraged to employ a more sophisticated, multilevel approach for examining sexual and reproductive health questions. The novel work by Smith and Subramanian inspires us to think beyond individual ''effects'' to advance our understanding of factors associated with sexual and reproductive risk behaviours and health outcomes. A more comprehensive understanding of both individual and area ''effects'' and their interaction will benefit geographically targeted interventions and increase the translational nature of sexual health research.

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